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205

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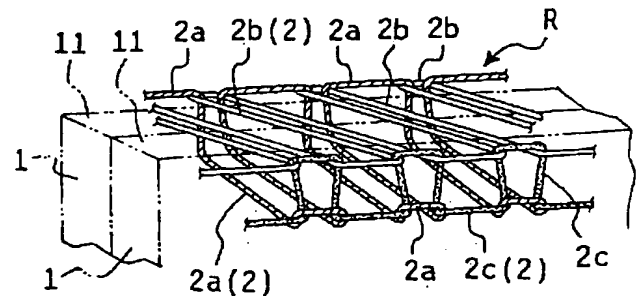
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(54) 【発明の名称】 表皮一体発泡用表皮材及び表皮一体発泡製品

(57) 【要約】

【目的】 一層表皮材、二層表皮材であっても、ウレタンテープの貼着や接着剤を塗る手間を要せず、縫製された表皮材内にそのまま発泡原料を注入して漏出等の不具合なしに発泡成形をなし得る表皮一体発泡用表皮材及び表皮一体発泡製品を提供する。

【構成】 複数の表皮構成片1を縫合し所定形状にした表皮一体発泡用表皮材であって、モケット表皮からなる表皮構成片1の端縁11、11同士が重ね合わされ、その重ね合わせ部Wが端縁11に沿って一本針・三本糸を採用したオーバーロック縫いRで、且つその縫いピッチPを1.5mm～3.0mmの範囲内に設定して縫合されるようにした。



## 【特許請求の範囲】

【請求項1】 複数の表皮構成片を縫合し所定形状にした表皮一体発泡用表皮材であって、表皮構成片の端縁同士が重ね合わされ、その重ね合わせ部が端縁に沿ってオーバーロック縫いで縫合されることを特徴とする表皮一体発泡用表皮材。

【請求項2】 前記表皮構成片にモケット表皮を使用すると共に、一本針・三本糸を採用したオーバーロック縫いで、且つその縫いピッチを1.5mm～3.0mmの範囲内に設定した請求項1記載の表皮一体発泡用表皮材。

【請求項3】 請求項1または2に記載された表皮一体発泡用表皮材の内面にその表皮材と一体に発泡体が形成されてなることを特徴とする表皮一体発泡製品。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】 本発明は、複数の表皮構成片の縫合からなる表皮一体発泡用表皮材及びその表皮材を用いてなる表皮一体発泡製品に関する。

## 【0002】

【従来の技術】 表皮一体発泡成形は、表皮一体発泡用表皮材を成形型内に配置し、その表皮材内面に液状発泡原料を注入して表皮材と一体に発泡成形する方法であり、後に発泡体表面に表皮材を被着する作業が不要となるだけでなく、表皮材と発泡体が一体になっているために表皮材が発泡体から浮き上がらず、皺等を発生させないメリットがある。故に、表皮一体発泡成形は、表面が表皮材で覆われた発泡製品の製造方法として多用されてきた。ところで、斯る表皮一体発泡成形に用いられる表皮材は、従来、真空成形、スラッシュ成形等で所定形状にしたプラスチックレザー品、或いは、ファブリック等を構成材とする複数の表皮構成片から縫合により所定形状とされたものが用いられてきた。特に近年にあっては、装飾性、表面感触においてプラスチックレザー品よりも優れるファブリック調の表皮材が好まれるようになり、前記複数の表皮構成片の縫合からなる表皮一体発泡用表皮材が専ら使用されるようになってきた。ファブリック調表皮材としては、例えば、織目からの漏出を防ぐべくファブリック表皮、ウレタンスラブ、ポリウレタンフィルムの三層表皮材を縫製したものである。

## 【0003】

【発明が解決しようとする課題】 しかるに、ファブリック調の表皮材内に、液状発泡原料を注入して発泡成形を行なうと、従来の本縫い仕様では、縫製部の針孔を通して発泡原料が外部に漏出する欠陥が現われた。そこで、改善対策として、発泡成形する前に縫製部にウレタテープを貼着したり（特公平5-83503号公報）、縫製部の針孔を接着剤で塞いで発泡成形時の漏れ止めする方法が案出された。また、最近、本出願人は縫製仕様を二重環縫いにすることによって針孔からの発泡原料漏れ

を抑える技術を開示した（特開平3-266611号公報）。ところが、上記二重環縫い技術は、三層表皮材では優れた効果を発揮するものの、ファブリック表皮一層、或いはファブリック表皮、ポリウレタン又は塩化ビニル等樹脂フィルムの二層表皮構成片を縫製した表皮材を用いると、たとえ二重環縫いをして、針孔から発泡原料が漏れるようになった。従って、斯る表皮材を用いる場合には、上述のウレタテープや接着剤を使う方法に頼らざるを得ず、作業工数の増加、ウレタテープ等の備品準備に迫られることとなった。

【0004】 本発明は上記問題点を解決するもので、一層表皮材、二層表皮材であっても、ウレタテープの貼着や接着剤を塗る手間を要せず、縫製された表皮材内にそのまま発泡原料を注入して漏出等の不具合なしに発泡成形をなし得る表皮一体発泡用表皮材及び表皮一体発泡製品を提供することを目的とする。

## 【0005】

【課題を解決するための手段】 上記目的を達成すべく、本第一発明の要旨は、複数の表皮構成片を縫合し所定形状にした表皮一体発泡用表皮材であって、表皮構成片の端縁同士が重ね合わされ、その重ね合わせ部が端縁に沿ってオーバーロック縫いで縫合されるようにした表皮一体発泡用表皮材にある。本第二発明の表皮一体発泡用表皮材は、第一発明の表皮構成片にモケット表皮を使用すると共に、一本針・三本糸を採用したオーバーロック縫いで、且つその縫いピッチを1.5mm～3.0mmの範囲内に設定したことを特徴とする。

【0006】 本第三発明の表皮一体発泡製品は、第一発明又は第二発明に係る表皮一体発泡用表皮材の内面にその表皮材と一体に発泡体が形成されるようにしたことを特徴とする。

## 【0007】

【作用】 表皮一体発泡製品を造る場合、発泡成形での発泡圧によって表皮材を膨らませるが、表皮材の伸展に伴ない、縫製部には網目が広がろうとする張力が発生する。しかるに、本発明の表皮一体発泡用表皮材及び表皮一体発泡製品のように、縫製部がオーバーロック縫いで縫合されていると、縫い目の縫糸が全体に二重になるので、発泡圧により張力が作用しても縫い目の縫糸にかかる張力が分散され、縫い目は開き難くなる。その結果、発泡原料が針孔を通して漏出しづらくなる。第二発明のごとく、一本針・三本糸を採用したオーバーロック縫いで且つその縫いピッチを1.5mm～3.0mmの範囲内に設定すると、より多くの縫い目の縫糸に分散され、針孔は広がらず、発泡原料の漏出をより完全に防止できる。そして、表皮構成片に樹脂によるバックコーティングを施したモケット表皮を使用すると、織目全域に渡って目が埋められているので、ファブリック表皮一層でも、織目からの発泡原料の漏出阻止できるようになる。

## 【0008】

【実施例】以下、本発明を実施例に基づいて詳述する。

#### (1) 実施例1

##### ①表皮一体発泡用表皮材の構成

図1～図6は、本発明に係る表皮一体発泡用表皮材（以下、単に「表皮材」という。）及び表皮一体発泡製品の一実施例を示す。表皮一体発泡製品として自動車用ヘッドレストに適用したものである。図1は表皮材の斜視図、図2、図3は端縁付近のオーバーロック縫いの斜視図、図4は図3の平面図、図5は図3の裏面図、図6は発泡圧により張力が作用した状態を表わす説明断面図である。

【0009】表皮材Aは、三つの表皮構成片1a、1b、1cを枕状の立体形状に縫製したものである（図1）。各表皮構成片1は端縁11、11同士を重ね合わせ、重ね合わせ部Wについては、端縁11に沿ってオーバーロック縫いRで周囲全体を縫合して、枕形状を作っている。尚、表皮一体発泡成形を行なう際には、図1の状態から裏返して使用される。ここで、符号71はインサートのステー部分を表皮材の外へ出すステー孔、符号72はステーを保持するためのリング環で、表皮構成片1に貼着されている。符号81は舌片を示し、この舌片81は表皮一体発泡製品が出来上がった折には、発泡体内に配されるようになる。舌片81については、オーバーロック縫いされた周縁から中央部に向かって縫合しているが、中央部を開け、スリット82が形成されている。スリット82は発泡原料の注入口であり、インサート挿着用でもある。

【0010】表皮構成片1は、アクリル、ポリアミド等の合成繊維（ここでは、ポリエステル繊維）をパイル糸12とし、綿、レーヨン等を地経にしたカットパイル織物である。カットパイル織物は、パイル織物のパイル抜け防止の目的で、バックコーティング量50g～70gの樹脂コーティングを施している。尚、織物の通気量

（JIS L1096 通気性A法準拠）は、 $0.08 \text{ cm}^3/\text{cm}^2/\text{sec} \sim 0.20 \text{ cm}^3/\text{cm}^2/\text{sec}$ 程度である。表皮構成片裏面がコーティング層13で覆われるため、発泡原料が織目を通して漏出し難くなっている（図3）。表皮構成片1、1の端縁同士が重ね合わせられ袋形状のヘッドレストが出来上がるが、その周縁形成する部分は、図2に示すごとのオーバーロック縫いR（縁がかり縫いともいう。）で縫合されている。縫合は周縁をぐるりと一周するもので、縫合終了部分Eは二回縫いで解けるのを防止する（図1）。

【0011】縫目形式は、縁がかり縫いすそ引で一本針・三本糸を採用している（JIS B9070）。オーバーロック縫いは、三本の縫糸2a、2b、2cによって縫合する（図2）。表皮構成片1の端縁11から内向きに約5mm入ったところで、縫糸2aのみが二つの表皮構成片1、1を貫通する構成である（図4）。そして、縫糸2bが端縁11を頑丈に取巻き、縫糸2a、2cと

係合して、端縁の口開きが起らないようにしている。針孔3を通る縫糸2a及び端縁11を取巻き縫糸2bは、相手縫糸と互いに係合する箇所を除き、全て二重になる構造である（図2～図5）。尚、図2は互いの縫糸2の関係を示すため、その絡み具合を緩くし、模式的に描かれ、また、図3～図5は判り易くするため縫いピッチPを大きくしているが、実際は緻密構造になっている。そして、図5の縫糸2Cによる係合締め輪αと縫い目βは、実際にはもう少し近接する。縫いピッチPは1.5mm～3mmの範囲内に設定するのが好適で、より好ましくは1.5mm～2mmの範囲内にある。縫いピッチPを1.5mm未満にするのは技術的に困難さを伴うからである。一方、縫いピッチPが2mmを越えると、発泡圧で縫合部に張力が作用するために、縫糸2aにかかる負担が徐々にではあるが増加し、不具合を招く虞れがあるからである。縫いピッチPが3mmを過ぎると、針孔3を通っての発泡原料漏れが多くなることが判明している。その具体的メカニズムは定かでないが、例えば、次のように推定される。発泡成形時には発泡圧によって表皮材Aを膨らませるが、このとき表皮構成片1が伸展するため、表皮材の縫製部に対しては張力が作用する。縫いピッチPが小さい間は、縫糸2aは緻密に配設され、単位長さ当りの縫糸2aの本数が多くなる結果、上記張力が分散され、図6（イ）のように縫糸2aは針孔3方向に起立状態を保つことができる。ところが、縫いピッチPが大きくなると、縫糸2aにかかる張力負担は増大し、図6（ロ）のごとく、無理な方向へと引っ張られる。その結果、針孔3が変形し隙間Sができ、発泡原料の漏出が始まるのである。

【0012】本実施例においては、オーバーロック縫いの仕様として、縫糸2にポリエステル糸の#8を用い、ミシン針には#16を使っている。ミシン針の形成する針孔3より大きな縫糸2を使用することによって、ここでも、発泡成形時に発泡原料が針孔3を通して外へ漏出するのを抑制している。縫製作業の困難さを伴うが、縫糸2aの外径は、針孔径より大きければ発泡原料の漏出防止の効果があるが、できる限り大きくするのが望ましい。尚、一部ではあるが、前述のオーバーロック縫いをしている周縁から舌片81に向かう縫合部分Tは本縫い仕様である。従って、その部分の針孔には発泡成形に先立ち接着剤等で封がれる。

##### 【0013】②表皮一体発泡製品と評価試験

次に、上記表皮材を用いて造られる表皮一体発泡製品について述べる。表皮一体発泡製品は、図1の表皮材Aを裏返しにし、次いで、インサートを表皮材に挿着する。詳しくは、インサート基部を表皮材内部にセットすると共に、そのステーをステー孔71を通して表皮材Aの外に配設する。その後、スリット82を使用して、表皮材内部へポリウレタンフォーム原料等の液状発泡原料を注入する。これらを発泡成型型内にセットし、発泡成形に

より所望の表皮一体発泡製品（ヘッドレスト）を得る。

【0014】こうして出来た表皮一体発泡製品の評価試験を行なった。各試験品、比較品に係る表皮材Aは図1のような形状で、縫目形式と縫いピッチを除けば、縫糸2やミシン針等は基本的に同じにしてある。試験品1～4は、本実施例のオーバーロック縫い仕様で縫いピッチPをそれぞれ1.5mmと2mmと3mmと4mmの四種類とした。比較品1～3には、本縫い仕様で、その縫いピッチを1mm、2mm、3mmとしたものを三種類用意し、また、二重環縫い仕様（比較品4～6）で、その縫いピッチを1mm、2mm、3mmとしたものを三

表1 試験結果

縫い目形式	サンプル	縫いピッチ P	結果 (漏れ具合)	備考
オーバーロック 縫い (実施例1)	試験品1	1.5mm	◎	
	試験品2	2mm	◎	
	試験品3	3mm	○	
	試験品4	4mm	×	
本縫い	比較品1	1mm	×	
	比較品2	2mm	×	
	比較品3	3mm	×	
二重環縫い	比較品4	1mm	—	縫製不可
	比較品5	2mm	×	
	比較品6	3mm	×	

【0016】本実施例のオーバーロック縫いによれば、縫いピッチPが1.5mmと2mmについて極めて良好な結果が得られた。縫いピッチPが3mmであっても合格値を示した。ただ、発泡原料のリークを完全に阻止するのは困難であった。縫いピッチPを大きくし、ピッチが4mmになると不良となった。一方、本縫い仕様の比較品1～3は全て発泡原料の漏れ量が大きく、不良であった。二重環縫い仕様の比較品5、6も、比較品1～3に比べれば発泡原料の漏れ量が少ないものの不良となった。尚、比較品4は縫製自体が不能で比較対象とならなかった。縫目からの発泡原料漏れは、全ての表皮材について見られなかった。次いで、ファブリック表皮、ポリウレタン又は塩化ビニル等樹脂フィルムの二層表皮構成片を縫製した表皮材を使用して、評価試験を実施したところ、上記試験結果と同様の判定となった。

#### 【0017】(2) 実施例2

本実施例では、図7に示すようなオーバーロック縫いを採用した。縫目形式の種類は縁がかり縫、一本針・三本糸である。本実施例によっても、実施例1と同じような結果が得られた。尚、オーバーロック縫いであっても、一本針・二本糸のものは発泡原料の漏出を防ぐ能力を備

\*種類揃えた。試験評価方法は、漏出する発泡原料の量との関係で四段階評価で表わした。◎印は発泡原料が全く漏れでなかった良好な結果を示す。○印も◎印に及ばないものの漏れが見られないか、漏れる場合でも極く少量にとどまり、一応の合格値を示す。×印は発泡原料の漏出量が中量となり、不良を意味する。××印は発泡原料の漏出量が大量になり、不良を示す。試験結果は表1のごとくであった。

【0015】

【表1】

えるものの、その能力が弱まっていた。一本針・一本糸となると、発泡原料の漏出防止能力はあるが、一段と低下するのが判明した。

#### 【0018】(3) 実施例の効果

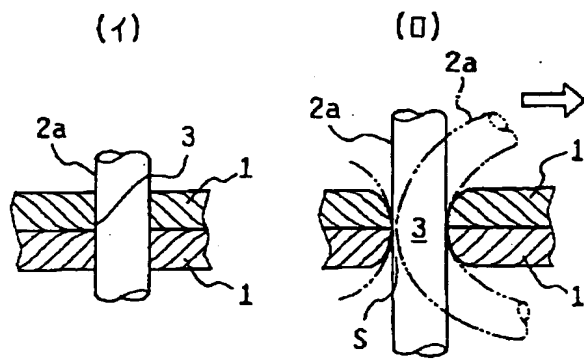
オーバーロック縫い仕様で縫製した表皮一体発泡用表皮材で表皮一体発泡製品を造ると、針孔にウレタンテープの貼着や接着剤を塗布せずとも、発泡成形時の発泡原料の漏出を防止できるので、ウレタンテープ等の資材を不要とする。更に、ウレタンテープの貼着等の作業がなくなるので、省力化に貢献する。オーバーロック縫いは、縫糸2bが針糸である縫糸2aの縫目を安定させ、また、縫糸2cが縫糸2a、2bと絡み合って、発泡圧に伴う張力に対する変形を抑止する。縫い（あたかも二重縫いになる。）の強化も手伝って、縫糸2aは、針孔を大きくすることなく、元の引き締められたままの状態を保つ。特に、一本針・三本糸のオーバーロック縫いの縫いで且つそのピッチを1.5mm～3.0mmの範囲内に設定したものは、上記作用で合格品が確実に得られ、なかんずく、縫いピッチを1.5mm～2.0mmの範囲内にすると、発泡原料が表皮材の外へ全く漏れ出ないので、表皮一体発泡製品の品質向上に寄与する。

【0 0 2 0】

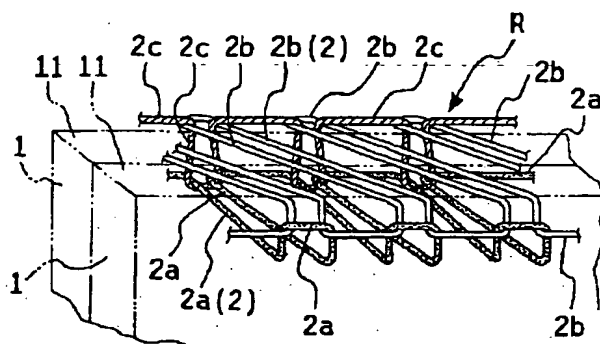
【図面の簡単な説明】

【図2】端縁付近のオーバーロック縫いの部分拡大斜視図である。

【図 5】



【图7】



AB

## PATENT ABSTRACTS OF JAPAN

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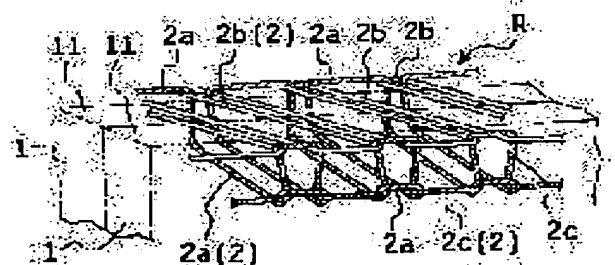
(22)Date of filing : 17.05.1995 (72)Inventor : TAKEUCHI NOBUO

## (54) SKIN INTEGRAL FOAMING SKIN MATERIAL AND SKIN INTEGRATED FOAMED PRODUCT

## (57)Abstract:

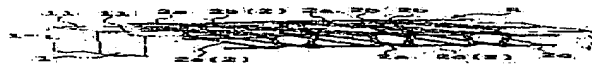
PURPOSE: To inject a foamable raw material into a sewn skin material as it is without requiring labor bonding a urethane tape or applying an adhesive even in a single layer skin material or a two-layered skin material to perform foam molding without generating trouble.

CONSTITUTION: In a skin integral foaming skin material having a predetermined shape obtained by sewing a plurality of skin constituting pieces 1, the end edges 11, 11 of the skin constituting pieces 1 composed of a moquette skin are superposed on upon another and the





superposed part W is sewn along the end edges  
11 by overlock sewing R employing a  
one-needle/three-yarn method and set to  
1.5-3.0mm in sewing pitch P.



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#### LEGAL STATUS

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[Patent number] 2836024

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CLAIMS

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[Claim(s)]

[Claim 1] It is really [ epidermis ] which is really [ epidermis ] which sutured two or more epidermis configuration pieces, and was made into a predetermined configuration the epidermis material for foaming, and is characterized by for the edges of an epidermis configuration piece piling up and suturing the superposition section by exaggerated lock sewing along with the edge the epidermis material for foaming.

[Claim 2] It is really [ according to claim 1 / epidermis ] which is exaggerated lock sewing which adopted 1 needle and 3 thread, and set up the sewing pitch within the limits of 1.5mm - 3.0mm while using moquette epidermis for said epidermis configuration piece the epidermis material for foaming.

[Claim 3] It is really [ epidermis ] which is really [ epidermis ] which was indicated by claims 1 or 2 characterized by coming to form foam in the epidermis material and one at an inside of epidermis material for foaming a foaming product.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention really [ epidermis ] which really [ epidermis ] which consists of a suture of two or more epidermis configuration pieces comes to use the epidermis material for foaming, and its epidermis material relates to a foaming product.

[0002]

[Description of the Prior Art] It is the method of foaming really [ epidermis ] arranging the epidermis material for foaming in a die really [ epidermis ], pouring a liquefied foaming raw material into the epidermis material inside, and carrying out foaming to epidermis material and one, and the activity which puts epidermis material on the foam surface behind not only becomes unnecessary, but since epidermis material and foam are united, epidermis material does not lose touch with foam, but there is a merit which does not generate a wrinkle etc. Therefore, foaming has really [ epidermis ] been used abundantly as the manufacture method of a foaming product that the surface was covered by epidermis material. By the way, as for the epidermis material really [ \*\*\*\* epidermis ] used for foaming, what was made the predetermined configuration by the suture from two or more epidermis configuration pieces which use as a component the plastics leather article made into the predetermined configuration by the vacuum forming, slush molding, etc. or a fabric has been used conventionally. If it is especially in recent years, the epidermis material of the fabric

and the epidermis material for foaming has really [ epidermis ] which consists of a suture of two or more of said epidermis configuration pieces come to be used chiefly. As fabric tone epidermis material, sewing of the three-layer epidermis material of fabric epidermis, urethane slab, and a polyurethane film is carried out, for example in order to prevent the exsorption from texture.

[0003]

[Problem(s) to be Solved by the Invention] However, when the liquefied foaming raw material was poured in into the epidermis material of a fabric tone and foaming was performed, by this conventional sewing specification, the defect which a foaming raw material leaks outside through

the needle hole of the sewing section appeared. Then, as a cure against an improvement, before carrying out foaming, the urethane tape was stuck on the sewing section, and how for adhesives to close the needle hole of (JP,5-83503,B) and the sewing section, and carry out a sealing device at the time of foaming was thought out. Moreover, these people indicated the technology of suppressing the foaming raw material leakage from a needle hole, by making sewing specification duplex ring sewing recently (JP,3-266611,A). However, although the above-mentioned duplex ring sewing technology demonstrated the effect excellent in three-layer epidermis material, when the epidermis material which carried out sewing of the bilayer epidermis configuration piece of a resin film, such as one layer of fabric epidermis, fabric epidermis, polyurethane, or a vinyl chloride, was used, even if it carried out duplex ring sewing, a foaming raw material came to leak from a needle hole. therefore, the method using an urethane tape and adhesives above-mentioned when using \*\*\*\* epidermis material -- not depending -- it will not obtain but will be followed to supply preparation of the increment in an activity man day, an urethane tape, etc.

[0004] It aims at really [ epidermis ] which this invention solves the above-mentioned trouble, does not require the time and effort which applies attachment of an urethane tape and adhesives even if it is epidermis material and bilayer epidermis material much more, but pours in a foaming raw material as it is into the epidermis material by which sewing was carried out, and can make foaming without faults, such as exsorption, offering a foaming product the epidermis material for foaming, and really [ epidermis ].

[0005]

[Means for Solving the Problem] That the above-mentioned purpose should be attained, for a start [ this ], a summary of invention is really [ epidermis ] which sutured two or more epidermis configuration pieces, and was made into a predetermined configuration the epidermis material for foaming, and the edges of an epidermis configuration piece pile it up and it is really [ epidermis ] by which the superposition section was sutured by exaggerated lock sewing along with the edge in epidermis material for foaming. Epidermis material for foaming is exaggerated lock sewing which adopted 1 needle and 3 thread, and is really [ of \*\*\*\* 2 invention / epidermis ] characterized by setting up the sewing pitch within the limits of 1.5mm - 3.0mm while it uses moquette epidermis for an epidermis configuration piece of the first invention.

[0006] A foaming product is really [ of \*\*\*\* 3 invention / epidermis ] characterized by forming foam in the epidermis material and one at an inside of epidermis material for foaming really [ epidermis ] concerning the first invention or the second invention.

[0007]

[Function] Although epidermis material is swollen with the blowing pressure in foaming when really [ epidermis ] building a foaming product, in the sewing section, the tension in which a mesh tends to spread occurs with expansion of epidermis material. however, the epidermis of this invention -- if the sewing section is sutured by exaggerated lock sewing, since the sewing thread of a seam will become a duplex at the whole really like the epidermis material for foaming, and an epidermis one foaming product, even if tension acts with a blowing pressure, the tension concerning the sewing thread of a seam distributes -- having -- a seam -- an aperture -- hard -- it

becomes. Consequently, it is hard coming to leak out a foaming raw material through a needle hole. It is exaggerated lock sewing which adopted 1 needle and 3 thread like the second invention, and if the sewing pitch is set up within the limits of 1.5mm - 3.0mm, the sewing thread of more seams can distribute, and a needle hole does not spread but can prevent exsorption of a foaming raw material more completely. and -- if the moquette epidermis which performed back coating by resin to the epidermis configuration piece is used, since it crosses throughout texture and the eye is buried -- one layer even of fabric epidermis -- exsorption inhibition of the foaming raw material from texture -- it comes to be able to do

[0008]

[Example] Hereafter, this invention is explained in full detail based on an example.

(1) The block diagram 1 of the epidermis material for foaming - drawing 6 really [ example 1\*\* epidermis ] show one example of a foaming product really [ epidermis ] concerning this invention the epidermis material for foaming (only henceforth "epidermis material"), and really [ epidermis ]. It really [ epidermis ] applies to the headrest for automobiles as a foaming product. Drawing 1 is an explanation cross section showing the condition that in the perspective diagram of exaggerated lock sewing of near the edge, and drawing 4 , as for the plan of drawing 3 , and drawing 5 , rear-face drawing of drawing 3 acted with the blowing pressure, and, as for drawing 6 , tension acted [ the perspective diagram of epidermis material, drawing 2 , and drawing 3 ].

[0009] The epidermis material A carries out sewing of the three epidermis configuration pieces 1a, 1b, and 1c to the solid configuration of the letter of a bolster ( drawing 1 ). Each epidermis configuration piece 1 piles up the edge 11 and 11 comrades, about the superposition section W, sutures the whole perimeter by the exaggerated lock sewing R along with the edge 11, and is making the bolster configuration. In addition, in case foaming is really [ epidermis ] performed, it is turned over and used from the condition of drawing 1 . Here, the stay hole and sign 72 with which a sign 71 takes out the stay portion of an insertion out of epidermis material are a ring ring for holding stay, and are stuck on the epidermis configuration piece 1. A sign 81 shows a tongue-shaped piece and this tongue-shaped piece 81 comes to be arranged in foam at the chip box when the foaming product was really [ epidermis ] done. Although sutured toward a center section about the tongue-shaped piece 81 from the periphery by which exaggerated lock sewing was carried out, a center section is opened and the slit 82 is formed. A slit 82 is the inlet of a foaming raw material, and is also an object for insertion insertion.

[0010] The epidermis configuration piece 1 is the cut pile fabric which made synthetic fibers (here polyester fiber), such as an acrylic and a polyamide, pile yarn 12, and made cotton, rayon, etc.

\*\*\*\*. A cut pile fabric is the purpose of pile omission prevention of a pile fabric, and has performed with an amounts [ of back coating / 50g-70g ] resin coating. In addition, the quantity of airflow (JIS L1096 permeability A law conformity) of textiles is 0.08cm<sup>3</sup>/cm<sup>2</sup>/sec - 0.20cm<sup>3</sup>/cm<sup>2</sup> / sec degree. Since an epidermis configuration piece rear face is covered in the coating layer 13, it has been hard coming to leak out a foaming raw material through texture ( drawing 3 ). Although the edges of the epidermis configuration pieces 1 and 1 pile up and the headrest of a bag configuration is made, the portion which carries out periphery formation is sutured by the

exaggerated lock sewing R (an edge borrows and it is also called sewing.) as shown in drawing 2 . A suture goes around a periphery round and it prevents solving the suture termination portion E in two-times sewing ( drawing 1 ).

[0011] The edge borrowed blind stitch format and 1 needle and 3 thread are used for it by sewing \*\*\*\*\* (JISB9070). Exaggerated lock sewing is sutured by three sewing thread 2a, 2b, and 2c ( drawing 2 ). It is the configuration in which only sewing thread 2a penetrates two epidermis configuration pieces 1 and 1 in the place which went into the inside sense about 5mm from the edge 11 of the epidermis configuration piece 1 ( drawing 4 ). And sewing thread 2bs surround the edge 11 strongly, and he engages with sewing thread 2a and 2c, and is trying for the opening aperture of the edge not to happen. Sewing thread 2b which surround sewing thread 2a and the edge 11 which pass along a needle hole 3 is structure which becomes a duplex altogether except for the part which engages with phase hand-sewing thread mutually ( drawing 2 - drawing 5 ). In addition, although the sewing pitch P is enlarged in order to make the debt \*\*\*\*\* loose, to draw it typically, in order that drawing 2 may show the relation of mutual sewing thread 2, and to make drawing 3 - drawing 5 intelligible, it has precise structure in practice. And the engagement bundle ring alpha and seam beta by sewing thread 2C of drawing 5 approach to a slight degree in fact. The sewing pitch P is within the limits of 1.5mm - 2mm suitably [ setting up within the limits of 1.5mm - 3mm ], and more preferably. The sewing pitch P is set to less than 1.5mm because it is technically accompanied by difficulty. It is because tension acts on the suture section with a blowing pressure, so there is a possibility of increasing although there is a burden placed on sewing thread 2a then gradually, and causing fault, on the other hand when the sewing pitch P exceeds 2mm. If the sewing pitch P passes over 3mm, it will have become clear that the foaming raw material leakage which passes along a needle hole 3 increases. Although the concrete mechanism is not certain, it is presumed as follows, for example. Although the epidermis material A is swollen with a blowing pressure at the time of foaming, in order that the epidermis configuration piece 1 may extend at this time, tension acts to the sewing section of epidermis material. As a result of, as for sewing thread 2a, arranging the sewing pitch P precisely while it is small, and the number of sewing thread 2a per unit length increasing, the above-mentioned tension is distributed and sewing thread 2a can maintain a standing-up condition in the needle hole 3 direction like drawing 6 (b). However, if the sewing pitch P becomes large, the tension burden placed on sewing thread 2a will increase, and will be pulled in the impossible direction like drawing 6 (b). Consequently, a needle hole 3 deforms, Crevice S is made, and exsorption of a foaming raw material starts.

[0012] In this example, as specification of exaggerated lock sewing, #8 of polyester thread are used for sewing thread 2, and #16 are used for the needle. By using bigger sewing thread 2 than the needle hole 3 which a needle forms, it has controlled that a foaming raw material leaks out outside through a needle hole 3 also here at the time of foaming. Although there is an effect of exsorption prevention of a foaming raw material if the outer diameter of sewing thread 2a is larger than the diameter of a needle hole, although accompanied by the difficulty of a sewing activity, enlarging as

tongue-shaped piece 81 from the periphery which is carrying out the above-mentioned exaggerated

lock sewing is this sewing specification. Therefore, in advance of foaming in the needle hole of the portion, it is adhesives etc. and \*\* is \*\*\*\*.

[0013] \*\* Really [ epidermis ] describe a foaming product a foaming product, an evaluation trial, next really [ epidermis ] that is built using the above-mentioned epidermis material. A foaming product makes the epidermis material A of drawing 1 inside-out, and, subsequently to epidermis material, really [ epidermis ] inserts an insertion. In detail, while setting an insertion base to the interior of epidermis material, the stay is arranged out of the epidermis material A through the stay hole 71. Then, a slit 82 is used and liquefied foaming raw materials, such as a polyurethane foam raw material, are poured in inside epidermis material. These are set in a foaming mold and a foaming product (headrest) is really [ desired / epidermis ] obtained by foaming.

[0014] In this way, the evaluation trial of a foaming product was really [ epidermis ] which was made performed. The epidermis material A concerning each specimen and a comparison article is a configuration like drawing 1 , and if it sews with blind stitch format and a pitch is removed, sewing thread 2, a needle, etc. are fundamentally made the same. Specimens 1-4 were sewn by the exaggerated lock sewing specification of this example, and made the pitch P four kinds, 1.5mm, 2mm, 3mm, and 4mm, respectively. Three kinds of things which prepared three kinds of things which set the sewing pitch to 1mm, 2mm, and 3mm by this sewing specification, and set the sewing pitch to 1mm, 2mm, and 3mm by duplex ring sewing specification (comparison article 4-6) were arranged with the comparison article 1-3. Four-step evaluation expressed the test evaluation method by relation with the amount of the foaming raw material to leak. O The mark shows the good result whose foaming raw material was not leakage at all. O Although the mark is also less than O mark, even when leakage is not seen or it leaks, it remains in \*\*\*\* small quantity, and a temporary success value is shown. The leak of a foaming raw material turns into the amount of inside, and x mark means a defect. The leak of a foaming raw material becomes extensive and xx mark shows a defect. The test result was as shown in a table 1.

[0015]

[A table 1]

表1 試験結果

縫い目形式	サンプル	縫いピッチ P	結果 (漏れ具合)	備考
オーバーロック 縫い (実施例1)	試験品1	1.5mm	◎	
	試験品2	2mm	◎	
	試験品3	3mm	○	
	試験品4	4mm	×	
本縫い	比較品1	1mm	××	
	比較品2	2mm	××	
	比較品3	3mm	××	
二重環縫い	比較品4	1mm	—	縫製不可
	比較品5	2mm	×	
	比較品6	3mm	×	

[0016] According to exaggerated lock sewing of this example, the result very good about 1.5mm and 2mm was obtained for the sewing pitch P. The success value was shown even if the sewing pitch P was 3mm. However, it was difficult to prevent leak of a foaming raw material completely. It became a defect, when the sewing pitch P was enlarged and the pitch was set to 4mm. On the other hand, the comparison article 1-3 of this sewing specification had the altogether large ullage of a foaming raw material, and was faulty. Although there were few ullages of a foaming raw material when the comparison article 5 and 6 of duplex ring sewing specification was also compared with the comparison article 1-3, it became a defect. In addition, the sewing itself was impossible for the comparison article 4, and it did not become a candidate for a comparison. The foaming raw material leakage from texture was seen about no epidermis material. Subsequently, when the epidermis material which carried out sewing of the bilayer epidermis configuration piece of a resin film, such as fabric epidermis, polyurethane, or a vinyl chloride, was used and the evaluation trial was carried out, it became the same judgment as the above-mentioned test result.

[0017] (2) In example 2 this example, exaggerated lock sewing as shown in drawing 7 was adopted. An edge borrows the class of blind stitch format and they are \*\*, and 1 needle and 3 thread. The same result as an example 1 was obtained by this example. In addition, even if it was exaggerated lock sewing, the capacity had become weaker although the thing of 1 needle and 2 thread was equipped with the capacity which prevents exsorption of a foaming raw material. When it came to 1 needle and 1 thread, there was exsorption prevention capacity of a foaming raw material, but it became clear that it fell much more.

[0018] (3) If a foaming product is really [ epidermis ] which carried out sewing by the effect



exaggerated lock sewing specification of an example built with the epidermis material for foaming really [ epidermis ], since neither attachment of an urethane tape nor adhesives is applied to a needle hole but \*\* can also prevent exsorption of the foaming raw material at the time of foaming, make materials, such as an urethane tape, unnecessary. Furthermore, since the activity of attachment of an urethane tape etc. is lost, it contributes to laborsaving. The blind stitch of sewing thread 2a whose sewing thread 2b is \*\*\*\* is stabilized, and sewing thread 2c becomes entangled with sewing thread 2a and 2b, and exaggerated lock sewing inhibits the deformation over the tension accompanying a blowing pressure. Also helping strengthening of sewing (it becomes duplex sewing.), sewing thread 2a maintains a condition [ that origin is tightened ], without enlarging a needle hole. If an accepted product is certainly obtained in the above-mentioned operation and a sewing pitch is carried out within the limits of 1.5mm - 2.0mm above all, since a foaming raw material does not have leakage appearance, it will really [ epidermis ] contribute especially the thing that is sewing of exaggerated lock sewing of 1 needle and 3 thread, and set up the pitch within the limits of 1.5mm - 3.0mm to upgrading of a foaming product out of epidermis material.

[0019] In addition, it is not restricted to what is shown in said example in this invention, but can change variously in the range of this invention according to the purpose and a use. The configuration of the epidermis configuration piece 1, the quality of the material and the quality of the material of sewing thread 2, a size, etc. can be chosen suitably. Of course, you may apply to three-layer epidermis material. A foaming product is not limited to a headrest but can really [ epidermis ] be applied to a foaming product really [ various / epidermis ].

[0020]  
[Effect of the Invention] Since the foaming raw material exsorption from a needle hole can be suppressed even if a foaming product pours a foaming raw material into whether it is direct into this epidermis material, using epidermis material and bilayer epidermis material much more like the above, the productivity drive of a foaming product and the effect excellent in quality stability maintenance are really [ of this invention / epidermis ] demonstrated really [ epidermis ] the epidermis material for foaming, and really [ epidermis ].

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## DESCRIPTION OF DRAWINGS

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### [Brief Description of the Drawings]

[Drawing 1] It is the perspective diagram of the epidermis material in an example 1.

[Drawing 2] It is the partial expansion perspective diagram of exaggerated lock sewing of near the edge.

[Drawing 3] It is the partial expansion perspective diagram showing the sewing condition near the edge.

[Drawing 4] It is the plan of drawing 3 .

[Drawing 5] It is rear-face drawing of drawing 3 .

[Drawing 6] It is an explanation cross section showing the condition that tension acted with the blowing pressure.

[Drawing 7] It is the partial expansion perspective diagram of exaggerated lock sewing of near [ in an example 2 ] the edge.

### [Description of Notations]

1 Epidermis Configuration Piece

1a, 1b, 1c Epidermis configuration piece

11 Edge

A It is really [ epidermis ] the epidermis material for foaming.

P Sewing pitch

R Exaggerated lock sewing

W Superposition section

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[Translation done.]